

REMARKS***Priority Claim***

Applicant requests that the Office acknowledge the claim of benefit under 35 USC § 119(e). The present application claims the benefit of U.S. Provisional Application No. 60/242,103 filed October, 20, 2000.

Drawings

Applicant requests that the Office to acknowledge the Drawing Office review of the drawings as noted in the Office Action Summary.

Claims Rejections - 35 USC §102(b)

The Office rejected claims 1-5, 7, and 8 under 35 U.S.C. 102(b) as being anticipated by Clark et al (US 5,917,272). A rejection based on anticipation requires that a single reference teach every element of the claim (MPEP § 2131). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Or stated in another way, a "claim is anticipated only if each and every element as set forth in the claim is found. . . . described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)

Among the distinctions of independent amended claim 1 of the present invention is that the '272 reference does not disclose a second substrate for the mounting of components. The Office alleges that the structure noted as reference number 30 in the figures of the '272 reference discloses such a substrate. Number 30 refers instead to the "base", part of the exterior of the package that appears to allow components on the extended segments 62 shown in Fig. 4 or components 52 on the underside of the base 30 as depicted in Fig.5. The present invention also

has an exterior outer shell portion that is part of the package – BUT this is not the same as the separate substrate of the present invention that is intended to house temperature insensitive components and can be affixed to the package floor or on posts.

The Applicant respectfully draws the examiner's attention to the following drawings which are figure 1 of the claimed invention and figure 3 from the '272 reference, respectively.

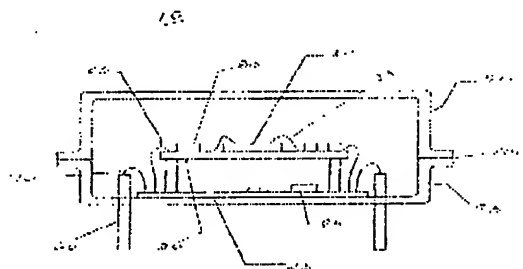


Figure 1

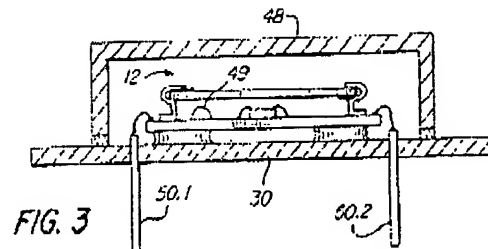


FIG. 3

From these illustrations, one can see the distinctions between the structure and function of the base plate 30 of the '272 reference and the second substrate 25 of the claimed invention. The present invention has two separate levels housing components in addition to the package floor while the '272 shows one thermal substrate level and some components mounted directly to the package base. The base plate 30 of the '272 reference is the equivalent of the housing 55 of the present invention. The second substrate 25 is shown affixed to the housing surface 55, but can also be mounted on posts as described in the present invention. In '272, there is NO additional substrate level.

The '272 reference includes Fig. 4 that show the resonator 12 mounted above a substrate 28 wherein components are mounted on the substrate 28. It also shows external circuitry 60 on an extended segment 62 off to the sides. Fig. 5 shows external components 52 mounted on the underside of the base 30. None of these '272 figures depict a thermal conductive substrate with resonator and a separate substrate layer in addition to the base package floor.

Therefore, the Applicant respectfully submits that the elements of the '272 reference are distinguishable from the elements of the claim 1, and therefore does not anticipate the claimed invention.

As dependant claims 2-5, 7, and 8 contain all the elements of independent claim 1, for at least the reasons stated above, the Applicant submits that claims 2-5, 7 and 8 are patentably distinct over the cited reference and allowance is respectfully requested.

Claim Rejections – 35 USC § 103

The Office has quoted the statute from 35 USC 103(a), which is referenced herein. The Office has rejected claim 6, 9-20 being unpatentable over US Patent 5,917,272 ('272) to Clark, in view of Clark et al. (IEEE Frequency Control Symposium, 1996). Applicant has carefully considered the Office rejections and respectfully submits that the amended claims, as supported by the arguments herein, are distinguishable from the cited references alone or in combination. Applicant notes that the invention denoted by the claims was commonly owned at the time that any inventions contained therein were made.

According to the MPEP §2143.01, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art."

A useful presentation for the proper standard for determining obviousness under 35 USC §103(a) can be illustrated as follows:

1. Determining the scope and contents of the prior art;
2. Ascertaining the differences between the prior art and the claims at issue;
3. Resolving the level of ordinary skill in the pertinent art; and
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

The Applicant respectfully submits that, as noted in the previous section the claimed invention claims a second substrate for mounting temperature insensitive components inside the package while temperature sensitive components can be mounted on the thermal conductive substrate.

As noted herein, a second substrate is not disclosed in either the '272 reference or the IEEE reference for purposes of mounting additional components. The thermal conductive substrate of the present invention is used for mounting temperature sensitive components while the additional substrate layer is disposed between the package base and the thermal conductive substrate as they are shown approximately parallel with the second layer sandwiched between the base and the thermal layer. The '272 and IEEE references do not describe in any way, shape or form, an additional substrate layer located between the package floor and the thermal substrate.

The Applicant also submits that there is no motivation or suggestion in '272 or the IEEE article to provide any motivation to implement a second substrate in the manner of the present invention. The '272 reference is specifically concerned with temperature control and the addition of a layer of components and electrical connections in proximity to the thermal conductive layer teaches away from the main objective to '272. The IEEE reference contains 3 pages and is intended to report on "the design of a new vacuum sealed OCXO termed the EMXO" (see IEEE Abstract).

Therefore, as the cited references do not describe an additional substrate layer, nor do they describe the placement of the second layer between the package base and the thermal substrate - the Applicant argues that the amended claim 1 is allowable. Dependant claims 6, 9, 11-14, 16-20 include the limitations of independent claims 1, 10, and 15, including the second substrate for the mounting of temperature insensitive components disposed between the floor and thermally conductive substrate. For at least the reasons stated herein, the Applicant submits that claims 6, and 9-20 are patentably distinct over the cited references, whether alone or in combination.

Furthermore, the Office correctly notes that neither the '272 reference nor the IEEE reference disclose the structure of a vacuum-sealed OCXO as described in the specification of the claimed invention, merely the desirability of employing such a structure. The IEEE reference to the simplified EMXO schematic shown in IEEE Figure 2 is used in conjunction with a TO-8 package and standard elements are distinguished from the present invention.

Nor does the IEEE reference disclose the use of a thermal hood. To correct this deficiency, the Examiner takes official notice that it would have been obvious to one of ordinary skill to modify the cited references to a vacuum sealed package enclosure or to employ a thermal hood. Examiner is kindly reminded that: "assertions of technical fact in areas of esoteric technology must always be supported by citation of some reference work" and "allegations concerning specific knowledge of the prior art, which might be peculiar to a particular art should also be supported." MPEP § 2144.03. The Applicant notes that a reference that merely discloses or suggests the general concept of vacuum enclosures or hoods is not sufficient to establish a prima facie case of obviousness. Rather, the reference or references must disclose or suggest a vacuum sealed enclosure as defined by the Applicant's claims in light of the specification. In light of the additional substrate imposed on the independent claims, all claims should be allowable and clarification by the Office should not be necessary.

Double Patenting

The Office rejected claims 1-20 under the judicially created doctrine of obviousness-type double patenting over the claims 1-9 of U.S. Patent No. 5,917,272. As discussed above, the claims of the present invention include the element of a second substrate layer between the floor and the thermal substrate layer, not disclosed in the '272 reference or in claims 1-9 of the '272 reference. As such the claimed invention is not deemed obvious in light of the cited reference and the scope of the claims of the present invention are considered patentably distinct from that of the '272 reference. The Applicant believes that the above arguments and amendments cure this rejection.

In the alternative, if the Office deems that a terminal disclaimer is required, the Office may contact the undersigned Attorney for submission of the terminal disclaimer. The Applicant agrees to herein file a terminal disclaimer to advance processing and obviate the rejection based on non-statutory double patenting. The filing of the terminal disclaimer is **not** to be considered an admission of the propriety or merits of the rejection. The issued patent and the above-referenced application share common ownership. A rejection based on a nonstatutory type of double patenting is obviated by filing a terminal disclaimer in the application or proceeding in which the rejection is made. In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); In re Knohl, 386 F.2d 476, 155 USPQ 586 (CCPA 1967); and In re Griswold, 365 F.2d 834, 150 USPQ 804 (CCPA 1966)

It may be useful to consider the background for the double patenting rejection. The doctrine of double patenting seeks to prevent the unjustified extension of patent exclusivity beyond the term of a patent. The public policy behind this doctrine provides that the public should be able to act on the assumption that upon the expiration of the patent it will be free to use not only the invention claimed in the patent but also modifications or variants which would have been obvious to those of ordinary skill in the art at the time the invention was made, taking into account the skill in the art and prior art other than the invention claimed in the issued patent. (see In re Zickendraht, 319 F.2d 225, 232, 138 USPQ 22, 27 (CCPA 1963) (Rich, J., concurring))

Double patenting results when the right to exclude granted by a first patent is unjustly extended by the grant of a later issued patent or patents. In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982). A rejection based on nonstatutory double patenting is based on a judicially created doctrine grounded in public policy so as to prevent the unjustified or improper time wise extension of the right to exclude granted by a patent. In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); In re White, 405 F.2d 904, 160 USPQ 417 (CCPA 1969); In re Schneller, 397 F.2d 350, 158 USPQ 210 (CCPA 1968); In re Sarett, 327 F.2d 1005, 140 USPQ 474 (CCPA 1964).

It should be understood the filing of a terminal disclaimer to obviate a rejection based on nonstatutory double patenting is not an admission of the propriety of the rejection. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991). The court indicated that the "filing of a terminal disclaimer simply serves the statutory function of removing the rejection of double patenting, and raises neither a presumption nor estoppel on the merits of the rejection."

It is useful to remember that since the analysis employed in an obviousness-type double patenting determination parallels the guidelines for a 35 U.S.C. 103 (a) rejection, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), are employed.

In addition, any obviousness-type double patenting rejection should make clear:

- (A) The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and
- (B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent.

In determining whether a nonstatutory basis exists for a double patenting rejection, the first question to be asked is: Does any claim in the application define an invention that is merely an obvious variation of an invention claimed in the patent? The Applicant has considered the comments from the Office but believes the claimed subject matter of the present invention is not an obvious variant of the issued patent. However in an effort to advance prosecution and gain allowance Applicant will accept such disclaimer, if required, as long as it is not an admission of the propriety or merits of the rejection.

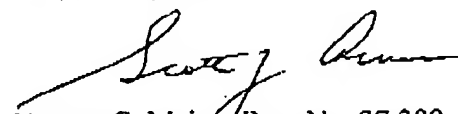
Telephone Interview

In the interest of efficiency, the Applicant requests that the examiner contact the undersigned attorney or agent by telephone to facilitate the expeditious resolution of any remaining issues associated with this case. The examiner is kindly reminded that Office policy strongly favors such interviews. MPI:P\$408

No claim amendments in this case were related to the statutory requirements of patentability unless expressly stated as such, and no amendment was made for the purpose of narrowing the scope of any claim unless expressly stated as necessary to distinguish over a particular prior art reference or combination of references.

Applicant believes the above amendments and remarks to be fully responsive to the Office Action, thereby placing this application in condition for allowance. No new matter is added. Applicant requests speedy reconsideration, and further requests that Examiner contact its attorney by telephone, facsimile, or email for quickest resolution, if there are any remaining issues.

Respectfully submitted,



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